



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/699,758      | 11/03/2003  | Weize Xu             | 86063PCW            | 4239             |

7590 10/10/2007  
Thomas H. Close  
Patent Legal Staff  
Eastman Kodak Company  
343 State Street  
Rochester, NY 14650-2201

|          |
|----------|
| EXAMINER |
|----------|

CUTLER, ALBERT H

|          |              |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
|----------|--------------|

2622

|           |               |
|-----------|---------------|
| MAIL DATE | DELIVERY MODE |
|-----------|---------------|

10/10/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

|   |                  |              |  |
|---|------------------|--------------|--|
| <b>Advisory Action</b><br><b>Before the Filing of an Appeal Brief</b> | Application No.  | Applicant(s) |  |
|   | 10/699,758       | XU, WEIZE    |  |
|   | Examiner         | Art Unit     |  |
|   | Albert H. Cutler | 2622         |  |

**--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

THE REPLY FILED 19 September 2007 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:
- a) ☒ The period for reply expires 3 months from the mailing date of the final rejection.
- b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) ~~for the~~ (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on \_\_\_\_\_. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

#### AMENDMENTS

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because
- (a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);
- (b) ☐ They raise the issue of new matter (see NOTE below);
- (c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
- (d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: \_\_\_\_\_. (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL -324).
5. ☐ Applicant's reply has overcome the following rejection(s): \_\_\_\_\_.
6. ☐ Newly proposed or amended claim(s) \_\_\_\_\_ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
7. ☒ For purposes of appeal, the proposed amendment(s): a) ☐ will not be entered, or b) ☒ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.
- The status of the claim(s) is (or will be) as follows:
- Claim(s) allowed: \_\_\_\_\_.
- Claim(s) objected to: \_\_\_\_\_.
- Claim(s) rejected: 1,3-5, 7-10, and 12-14.
- Claim(s) withdrawn from consideration: \_\_\_\_\_.

#### AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing of good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

#### REQUEST FOR RECONSIDERATION/OTHER

11. ☐ The request for reconsideration has been considered but does NOT place the application in condition for allowance because: \_\_\_\_\_.
12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08) Paper No(s). \_\_\_\_\_
13. ☒ Other: Response to Arguments.

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments filed September 19, 2007 have been fully considered but they are not persuasive.

Applicant argues that the pixels of Rossi are sampled row-by-row and column-by-column, and that this is different from the current invention.

The Examiner respectfully disagrees. The pixels of Rossi may indeed be sampled row-by-row and column-by-column from the pixel array. However, Rossi is used to cover the current claim limitation of, "transferring the signals from the plurality of dark reference pixels that are substantially shielded from light to a plurality of sample and hold circuits". This claims language simply calls for the transferring signals from pixel array to sample and hold circuits, and provides no method of transfer. Therefore, Rossi meets this limitation. The limitation of transferring signals substantially simultaneously from each of the plurality of sample and hold circuits is not met by Rossi. However, this limitation is covered by Borg, as stated in the previous action.

Applicant argues, with respect to Borg, that because the sense nodes of several dark pixels in a row are shorted together, the column output of only one of the reference pixels is used as a reference signal.

The Examiner respectfully disagrees. Although Borg teaches that the column output of only one pixel is used, this output provides the average value of the plurality of pixels shorted together and averaged out. See paragraphs 0021, 0025, and figure 2.

Applicant argues, with respect to Borg, that the Examiner is incorrect in that operational amplifier(38) does not produce an average dark reference signal, and that the average dark reference signal is produced by shorting the sense nodes of "many reference pixels" together.

The Examiner respectfully disagrees. Although the Examiner concedes that the average dark reference signal is produced by shorting the sense nodes of "many reference pixels" together(Borg, paragraph 0025), the column amplifier(38) still produces an average signal, albeit one with a DC bias(paragraphs 0023-0025). Claim 1 simply calls for an operational amplifier that produces a substantially average dark signal for each row of dark pixels, and this limitation is met by the Borg reference.

Applicant argues that the combination of Rossi and Borg does not render Applicant's independent claims 1, 5, and 10 obvious because neither Rossi nor Borg teaches or suggests transferring signals from each of the plurality of sample and hold circuits to an operational amplifier on one clock cycle. Borg reads the signal from only one of the reference pixels and uses that signal as reference signal. And as noted by the Examiner on page 7 of the final office action, Rossi does not "explicitly teach that the pixels are read out simultaneously, or on one clock cycle, from the sample and hold circuits (33)."

The Examiner respectfully disagrees. Rossi, indeed, does not explicitly teach that the pixels are read out simultaneously, or on one clock cycle, from the sample and hold circuits. However, Borg cures this limitation. The teachings of Borg would have motivated someone having ordinary skill in the art at the time of the invention to read

out the dark reference signals of Rossi simultaneously, onto one output line, in order to compensate for row-wise fixed pattern noise(Borg, paragraph 0025). Contrary to Applicant's assertions, Borg does teach that the signals from many of the reference pixels are read out and that the average is used as the reference signal as discussed above.

Finally, Applicant argues that the combination of Rossi and Borg does not render Applicant's independent claims 1, 5, and 10 obvious because both Rossi and Borg fail to teach or suggest an operational amplifier that produces a substantially average dark signal for each row of dark reference pixels. As noted by the Examiner on page 7 of the final office action, Rossi does not "teach that the operational amplifier (35) produces a substantially average signal from all the signals in the sample and hold circuits (33)." And the operational amplifier (38) in Borg produces a difference of a common mode voltage ( $V_{cm}$ ) and the reference signal, and not an average dark signal for each row of dark reference pixels.

The Examiner respectfully disagrees. Borg teaches that the amplifier produces a substantially averaged dark reference signal as discussed above, and in paragraph 0025 of the Borg reference. The Borg reference does not teach that the amplifier(38) averages the dark reference signals. Rather, the Borg reference teaches that the amplifier(38) produces an amplified average dark reference signal at the output thereof. Like Borg, on page 3, lines 12-18 of the current invention, the Applicant teaches that signals are output from the sample and hold circuits simultaneously onto the same busses. Although Applicant's invention provides a differential amplifier(60), the

Examiner has found nothing that would indicate that a differential amplifier, in itself, can average a multitude of input signals. Rather, a differential amplifier simply amplifies a differential signal.

Therefore, the rejection is maintained.

### ***Conclusion***

2. Because the amendment submitted on September 19, 2007 introduces no new subject matter, and does not change the scope of the claims, it has been entered by the Examiner.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Albert H. Cutler whose telephone number is (571)-270-1460. The examiner can normally be reached on Mon-Fri (7:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ngoc-Yen Vu can be reached on (571)-272-7320. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2622

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AC



NGOC-YEN YU  
SUPERVISORY PATENT EXAMINER